

REMARKS

This is a full and timely response to the outstanding non-final Office action mailed on April 10, 2008. Applicants hereby respectfully request entry of the amendment of claims 1, 6 and 11 as set forth hereinbefore to place the present application in condition for allowance. No new matter has been added to the application by virtue of the present amendments. Reconsideration and allowance of the application and presently pending claims 1, 3-6, 8-11 and 13-15, as currently amended, are respectfully requested.

Present Status of the Application

The Office action has rejected all of the pending claims 1, 3-6, 8-11 and 13-15. Specifically, claims 1, 6, 11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Jang et al. (Korea 2001-009208, "Jang" hereinafter) in view of Demaray et al. (US Pat. 5,330,628, "Demaray" hereinafter) and Sawada et al. (US Pat. 5,135,629, "Sawada" hereinafter). Claims 3, 8, 13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Demaray and Sawada as applied to claims 1, 6, 11 above, and further in view of Harker et al. (US Pat. 3,690,635, "Harker" hereinafter). Claims 4, 5, 9, 10, 14 and 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Demaray and Sawada as applied to claims 1, 6, 11 above, and further in view of Krivokapic et al. (US Pat. 5,643,428, "Krivokapic" hereinafter).

In response thereto, Applicants have amended claims 1, 6 and 11 according to the last sentence of Para. [0028]. It is believed that no new matter adds by way of

amendments to the claims.

After entry of the foregoing amendments, claims 1, 3-6, 8-11 and 13-15 remain pending in the present application, and reconsideration of those claims is courteously requested.

Discussion of Office Action Rejections under 35 U.S.C. 103(a)

The Office Action rejected claims 1, 6, 11 under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Demaray and Sawada. The Office Action rejected claims 3, 8, 13 under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Demaray and Sawada as applied to claims 1, 6, 11 above, and further in view of Harker. The Office Action rejected claims 4, 5, 9, 10, 14 and 15 under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Demaray and Sawada as applied to claims 1, 6, 11 above, and further in view of Krivokapic.

Amended claim 1 of the present invention recites the features as follows:

“1. An adjustable collimator, comprising:

an adjustable main body, having an interior space, a top portion, a bottom portion and an adjuster between said top portion and said bottom portion, said adjuster being adapted for adjusting a relative distance between said top portion and said bottom portion;

a first collimating element, fixed inside said interior space of said top portion to move with said top portion;

a second collimating element, fixed inside said interior space of said bottom portion to move with said bottom portion; and

a mask, covering the bottom portion and portion of the top portion of said adjustable main body below said first collimating element and surrounding said second collimating element, so as to **prevent molecules of a target material from without being through the second collimating element.**”

Amended claim 6 of the present invention recites the features as follows:

“6. A sputtering apparatus for sputtering a target material onto an object, comprising:

a chamber, said target material, disposed inside said chamber;

a holding base, disposed inside said chamber opposite to said target material; and

an adjustable collimator, set between said holding base and said target material, said adjustable collimator including:

an adjustable main body, having an interior space, a top portion, a bottom portion and an adjuster between said top portion and said bottom portion, said adjuster being adapted for adjusting a relative distance between said top portion and said bottom portion;

a first collimating element, fixed inside said interior space of said top portion to move with said top portion;

a second collimating element, fixed inside said interior space of said bottom portion to move with said bottom portion; and

a mask, covering the bottom portion and portion of the top portion of said adjustable main body below said first collimating element and surrounding said second collimating element, so as to **prevent molecules of the target material from directly**

going to the object and without being through the second collimating element.”

Amended claim 11 of the present invention recites the features as follows:

“11. A sputtering apparatus for sputtering a target material onto an object,
comprising:

a chamber, said target material being disposed inside said chamber;

a holding base, disposed inside said chamber opposite to said target material; and

an adjustable collimator, disposed on said holding base to cover said object so that
said adjustable collimator moves with said holding base, said adjustable collimator
including

an adjustable main body, having an interior space, a top portion, a bottom portion
and an adjuster between said top portion and said bottom portion, said adjuster being
adapted for adjusting a relative distance between said top portion and said bottom portion;

a first collimating element, fixed inside said interior space of said top portion to
move with said top portion;

a second collimating element, fixed inside said interior space of said bottom
portion to move with said bottom portion; and

a mask, covering the bottom portion and portion of the top portion of said
adjustable main body below said first collimating element and surrounding said second
collimating element, so as to **prevent molecules of the target material from directly
going to the object and without being through the second collimating element. ”**

Jang discloses a sputtering equipment, and “130a” of the sputtering equipment represents a closed curve shaped bellows pipe. According to the abstract of Jane, the closed curve shaped bellows pipe 130a has no “adjustable” function, and thus it is unreasonable to take the closed curve shaped bellows pipe 130a as a “adjuster” on Page 3, lines 6-8 in the Office Action. Moreover, “170a~c” of the sputtering equipment in Jang are just shields and have no “collimating” function as compared with claims 1, 6, 11 of the present application. And, Jane fails to disclose, teach or suggest that the mask covering the bottom portion and portion of the top portion of said adjustable main body below said first collimating element and surrounding said second collimating element in claims 1, 6, 11 of the present application.

Demaray also fails to disclose, teach or suggest that the mask covering the bottom portion and portion of the top portion of said adjustable main body below said first collimating element and surrounding said second collimating element in claims 1, 6, 11 of the present application.

Sawada discloses a thin film deposition, and the anti-contamination means 10 in Sawada is presumed to function as the mask of the present application in the Office Action. However, it is clear that the anti-contamination means 10 is coated on the existing components (i.e. walls, target shield, substrate shield, shutter and so on) according to the specification and Fig. 1 of Sawada. In other words, it only obtains shields (170a~c of Jang) coated with metal foil (i.e. the anti-contamination means 10) from the combination of the anti-contamination means 10 of Sawada and the apparatus of Jane. Therefore, the mask of the present application is not obvious. In addition, the mask of the

present application can **prevent molecules of the target material from directly going to the object and without being through the second collimating element**, but the combination of Sawada and Jane cannot.

Harker or Krivokapic also fails to disclose, teach or suggest that the mask in amended claims 1, 6, 11 of the present application.

In light of the foregoing, it is submitted that *Jang*, *Demaray*, *Kawada*, *Harker*, *Krivokapic*, or any of the cited references, taken alone or in combination, fails to disclose, teach, or suggest, either implicitly or explicitly the above features as claimed in claims 1, 6 and 11, rendering claims 1, 6 and 11 non-obvious and patentable.

Because independent claims 1, 6 and 11 are allowable over the prior art of record, their respective dependent claims 3-5, 8-10 and 13-15 are allowable as a matter of law, for at least the reason that these dependent claims contain all features of their respective independent claims 1, 6 and 11. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

CONCLUSION

For at least the foregoing reasons, it is believed that the claims 1, 3-6, 8-11 and 13-15 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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